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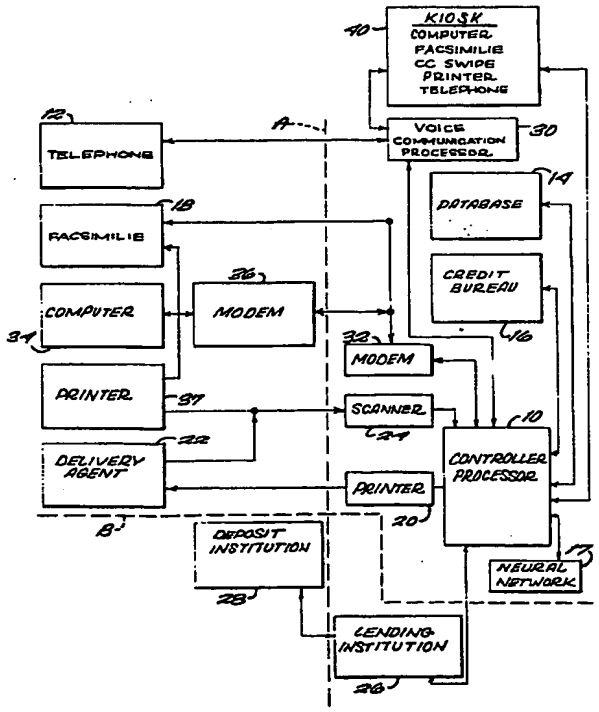
(54) Title: CLOSED LOOP FINANCIAL TRANSACTION METHOD AND APPARATUS

(57) Abstract

A method and apparatus for closed loop, automatic processing a loan, including completion of the application, underwriting, and transferring funds, includes use of a programmed computer (34) to interface with an applicant, obtain the information needed to process the loan, determine whether to approve the loan, and effect electronic fund transfers to the applicant's deposit account and arrange for automatic withdrawals to repay the loan. Information is received from the applicant preferably by using voice recognition technology (30) but alternatively by entering the alpha-numeric information using a personal computer (34) keyboard or using buttons on a telephone (12). The loan approval determination is made using a neural network (17) with input obtained in part from the applicant and in part from databases (14) accessed by the computer (34), such as a credit bureau (16), to obtain a credit report. The loan agreement is transmitted by facsimile to and from the applicant when the applicant has access to a facsimile machine (18) of data field to be printed (37) or to an agent (22) who delivers the agreement to the applicant when the applicant does not have access. In a preferred embodiment, the applicant accesses the computer (34) from a kiosk (40) where the complete transaction can take place as the applicant waits.



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CLOSED LOOP FINANCIAL TRANSACTION METHOD AND APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to closed loop financial transactions. More specifically, the present invention is a method and apparatus for processing loans automatically, beginning with the loan application and continuing through to transfer of funds to the borrower and to arranging for repayment.

2. Discussion of Background

Borrowed money is essential to facilitate commerce and personal finance. Individuals and businesses borrow money on both a short term and a long term basis for better management of their day-to-day financial transactions and to obtain the goods and services they need when they need them. If the need to borrow money is anticipated, the arrangements for borrowing can be made in advance of the need. But financial needs are sometimes not foreseen, and the extent of a financial need is not always known or knowable in advance. Furthermore, these arrangements are usually somewhat of a necessary inconvenience because they take time and effort to complete.

When an individual needs to borrow money, the lender will not only expect repayment but will also want to have confidence that the amount lent can be repaid on time. The effort by the borrower to provide

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the lender with this confidence level will depend on the amount lent. For example, a loan of less than one hundred dollars might be made simply on the basis of knowing that the individual to whom the money is lent has a job. For lending millions of dollars, the lender may want to take a security interest in assets that have a value in excess of the amount lent to cover fluctuations in the values of those assets during the time the loan is being repaid.

Not only will the borrower have an obligation to convince the lender that the borrower is creditworthy, the lender also has obligations to the borrower. For example, in consumer loans, laws require the lender to carefully explain certain aspects of the terms of the loan.

When time and foresight permit advance arrangement of loans, the act of borrowing can be made much simpler. When time is short and the need for the loan was not anticipated, the act of going through the process of borrowing may be so time-consuming that obtaining the loan may not be possible at all.

Typically, a business and an individual will either borrow relatively small amounts using credit cards, with pre-approved credit limits, or go to a lending institution for larger sums, where the process of completing documentation for borrowing money takes longer and is subject to conditions that must be fulfilled before the loan can be made. Naturally, for large loans, the safeguards for the lender take time. But for smaller loans, those above credit-card limits but still below a level where there might be a significant concern of the ability of the lender to repay the loan, there exists a need for greater convenience.

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SUMMARY OF THE INVENTION

According to its major aspects and briefly stated, the present invention is a method and apparatus for closed loop processing of a loan application, including completion of the application, underwriting, and transferring of funds. The term "closed loop" means that all the steps involved in loan processing, including the steps of transferring the funds to the borrower and arranging for repayment as well as completing the loan application and underwriting it, can be done without human intervention. The apparatus uses a computer capability and a communications link, plus other electronic communications equipment, to enable the complete, automated processing of the application, namely, (1) the exchange of information with the applicant preferably using human voice recognition equipment, (2) the underwriting, meaning the evaluation and approval, of the loan, plus (3) initiating electronic transfer of funds from a source of funds to the deposit account designated by the applicant and (4) automatic withdrawals from the applicant's account to repay the loan.

The loan is initiated by an applicant via a variety of communication and electronic routes to make contact with the computer, which responds to the applicant and obtains information using voice communication processing. Information about the applicant is also obtained via electronic transfer of data to the computer from one or more databases, including those that provide name and address based on a caller's telephone number, and from credit bureaus that provide credit reports on an applicant given a name, a social security number and an address. In a preferred embodiment, the computer capability of the present invention

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also contains a "neural network" that is used to score the application, that is, to make a determination of whether to approve the loan based on a computer analysis of factors deemed important in assessing the would-be borrower's ability and willingness to repay the loan and to score the loan and assess the risk of it not being paid.

Finally, the loan agreement and related documentation are sent to the borrower by the fastest and most convenient means, including facsimile, direct transmission of electronic datafile to the borrower's personal computer via modem, overnight mail delivery service, and so on. The processing of the loan is done completely and automatically, with human intervention occurring only when the borrower is using a rotary dial telephone, makes too many entry mistakes, wants operator assistance, or the system suspects fraud.

The computer capability of the present invention includes voice communication processing, control processing including analysis and accessing information. These capabilities may be in separate computers or in a single, dedicated computer, perhaps with all capabilities built into a single microchip.

The user may access the system simply by telephone or in one or more other ways. For example, in a preferred embodiment, the user-interface is a kiosk housing a communication facility with a monitor and keypad (and perhaps a telephone), a facsimile machine for transmitting documentation from a remote or internal computer to the applicant once the transaction is complete, a bank card reader to identify an applicant, the applicant's bank and associated checking account routing information, and means for electronically transferring the signature of the borrower onto the loan agreement. The kiosk may be established at a convenient

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location, such as an airport terminal, a bank, a shopping area or a store selling goods that might carry a price higher than a typical credit card limit, such as a jewelry store or computer sales store, for example.

In an alternate embodiment of user interface, the loan process can be initiated with by agent, such as an insurance agent or financial planner. An agent may have a personal, "lap top" computer with a modem and facsimile machine for use in assisting the borrower in applying for a loan. An advantage of these channels for accessing the loan system of the present invention is the fact that insurance agents and financial planners are accustomed to handling important financial documentation.

An important feature of the present invention is the extent to which the loan is processed by computer. Computers are used to assist in processing loans routinely, but the extent of use here significantly exceeds that known in the art. Here, the processing by computer includes underwriting the loan application and deciding to make or deny the loan (or delay loan approval until more information is provided). The use of the computer to access certain information not within its own memory also eliminates the need for human-based processing. Avoiding human intervention not only saves processing time and reduces errors, but also eliminates bias in the decision to approve or deny the loan.

The use of a kiosk to make available to borrowers the communications capability for applying for a loan is another important feature of the present invention. Kiosks, placed in convenient locations, will contain electronic equipment that facilitates and speeds all of the steps in obtaining a loan. Importantly, because funds are deposited directly into the borrower's bank account rather than dispersed directly to

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the borrower from an automatic teller machine, the obtaining of funds from such a kiosk is safer than obtaining funds from a teller machine.

Another feature of the present invention related to the processing of the loan is the use of neural networks by a computer to make the decision that the borrower is likely repay the loan. Neural networks mimic the decision-making process of a human and, given the increase in loan processing productivity, are cost-effective. Neural networks in the preferred embodiment of the present invention make the lending decision, but in an alternative embodiment, are used to adjust periodically a more traditional scoring system.

Still another feature is the combination of automatic processing of a loan with direct deposit of funds and automatic withdrawal for repayment. These features enable the loan to be made on the same day in most cases, but at least by the next business day, and to give the lender some measure of control over repayment by facilitating automatic withdrawal thereby eliminating both delays in mailing payment checks and forgetfulness on the part of the borrower in making timely payments to the lender.

Other features and advantages will be apparent to those skilled in the art of automatic financial transactions from a careful reading of the Detailed Description of Preferred Embodiments accompanied by the Drawings.

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BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings,

Fig. 1 is a flow chart depicting the major steps of an automatic financial lending system according to a preferred embodiment of the present invention;

Fig. 2 is a perspective view of a kiosk according to a preferred embodiment of the present invention; and

Fig. 3 is a front view of a portion of the kiosk of Fig. 2 according to a preferred embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The present invention is a method and apparatus for making loans automatically, that is, a closed loop loan. By the term "automatically," it is meant that the application is received and processed, the decision made to grant or deny the loan, and the deposit of the loaned amount to the borrower's account is made entirely by computers in conjunction with voice and electronic communication equipment.

Fig. 1 shows a schematic diagram according to a preferred embodiment of the present invention. Everything to the left of line A of Fig. 1 represents the equipment used by the loan applicant; everything above line B relates to the present invention; everything below line B is used with the present invention but is not part of the inventive combination. An important feature of the present invention is its flexibility in enabling the borrower to gain access to a system controller/processor 10 via a voice communication processor 30, and in a

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number of other different ways, in order to apply for the loan. Several of these ways will be described below, but for the present purposes, it will be assumed that the borrower is accessing communication processor 30 using a telephone 12 rather than using any more elaborate, electronic communications hardware over a communications link. A communications link is at least one telephone line, perhaps one or more dedicated line, in the kiosk embodiment to be described presently. Voice communication processor 30 is the interface between telephone 12 and controller/processor 10, enabling the controller /processor 10 to "talk" to the borrower over telephone 12, and in a preferred embodiment to be described presently, for the borrower to input responses to controller/processor 10 by speaking to communication processor 30.

It will also be assumed that the borrower is accessing communication processor 30 without assistance from either an employee of the lender or its agent, but these alternative embodiments will also be described below.

In its simplest embodiment and briefly stated, the process begins when the borrower calls communication processor 30 using telephone 12. Controller 10 obtains information in part from the calling borrower, via communications processor 30, and in part from a database 14 using the borrower's telephone number for identification. Controller 10 determines caller's name and address from database 14 based on the telephone number of the caller. Other than confirmation that the caller wants to apply for a loan, the amount desired, and the term, controller 10 initially needs only the loan applicant's name, address and social security number for identification. This information is used to obtain a credit report from a credit bureau 16.

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The borrower's credit report is obtained from credit bureau 16 by controller 10, evaluated by a neural network 17, to be described more fully below, and a decision is made by neural network 17 in the form of a score and an associated risk factor to grant or deny the loan. Communication processor 30 informs the borrower of the decision and, if the loan is granted, arranges to get documentation that contains the terms of the loan to the borrower for signing.

The documentation can be sent both to and from the applicant completely or partway by facsimile 18 to reduce the transaction time. An agreement received by the applicant by facsimile 18 can be signed and returned by facsimile 18. Facsimile capability is not required, however. For example, if the caller has a personal computer 34, a modem 36 and a printer 37, then an electronic file of the documents can be transmitted to the caller, printed out on the caller's printer 37, signed and mailed back, or sent by facsimile if available. Alternatively, the loan agreement documents can be sent by facsimile to a nearby delivery agent 22 that can deliver them to the caller who can sign them, and then delivery agent 22 can send them back by facsimile. In this example, the execution of these documents can easily be effected the same day. Delivery agent 22 can be the U.S. Postal Service, a private delivery service, or an agent providing this service to the lending institution, such as an insurance agent or financial planner.

The executed documentation can also be received by controller/processor 10 in several ways, such as by an electronic file sent via modem 32, as a facsimile transmission that can be received directly into controller/processor 10, or as paper documents, sent by overnight mail, to be scanned into controller 10 with a scanner 24. If the documents

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are complete and signed, controller 10 arranges for electronic transfer of funds from a lending institution 26 directly to the borrower's account in a deposit institution 28 and, via communications processor 30, contacts the borrower to confirm the time and date of the transfer. The caller will repay the loan in installments automatically withdrawn from the deposit account by lending institution 26 or other institutions to which the loan might be assigned.

In the foregoing embodiment, communication processor 30 requires the following information from the caller: verification that the caller is calling about a loan, the loan amount, the term of the loan, verification of the caller's name and address and home/business telephone number, and the caller's social security number. This information is forwarded to controller 10 which then obtains other information from data base 14, including name and address corresponding to the telephone number of the caller. Finally, with the caller's name, address and social security number, controller 10 can obtain a credit report from credit bureau 16.

Communications processor 30 receives information from the caller over the communications link by instructing the caller to push buttons on telephone 12. Alternatively and preferably, processor 30 has a voice recognition processing capability for receiving and interpreting words spoken by the caller to the extent needed to process the loan. Communications processor 30 is programmed to speak with a synthesized or pre-recorded voice.

Communications processor 30 will obtain the telephone number of the caller using automatic number identification technology from the local telephone company or by asking the caller to input the number using

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the buttons on a "touch tone" telephone. The caller's telephone number is forwarded to controller 10. Controller 10 then uses this information to access database 14 for additional information regarding the caller. Data base 14 is one of several, currently available, commercial data bases to determine the address and name of a caller. These data bases are offered by Polk, R. R. Donnelley & Sons, MetroNet, and Telident, and can be accessed for use on a subscriber's system. Alternatively, and preferably, voice recognition using a voice communication processor 30 can be used to obtain the alphabet-based information, namely, address and name of the caller, directly from the caller and numerical information when the caller presses the touch tone telephone buttons in response to requests for the numerical information.

After confirming the caller's name and address from data base 14, and including perhaps a simple inquiry for verification of the name, number and address plus a request for the caller's zip code, communications processor 30 asks the caller/borrower for his social security number. While the credit report is being obtained from credit bureau 16 via controller 10, the amount of the loan and the preferred repayment schedule can be obtained by exchange of information with the caller and communications processor 30. With telephone 12, the caller can indicate yes or no to various questions by pressing the telephone buttons indicated for response by processor 30, or, if processor 30 has voice recognition capability, by simply saying yes or no over telephone 12.

When controller 10 has received the credit report, it sends the report via communications link to neural network 17 to begin the evaluation of the loan request. A neural network is the name generally

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given to a system designed to evaluate several, potentially-competing factors to arrive at a decision in the form of a score. The evaluation proceeds by iterating among a set of criteria that are weighted. In the present application, one criterion that may be used in deciding to grant the loan is that the applicant have a full time job; this criterion may in fact have the greatest weight. However, if the borrower owns a home and has several bank accounts, criteria directed toward these assets might outweigh the lack of a job.

Analyzing the loan application involves determining a score on which granting or denying the loan will be based. A typical scoring system simply assigns points to various factors that may be considered in the loan determination. Preferably, however, a neural network is used for making the loan determination or at least for updating on a periodic basis the point applied by a more traditional scoring system.

Neural network 17 is established by first identifying criteria that might have a bearing on the ability and willingness of the borrower to repay the loan. Then historical data are gathered to determine the influence, or weight, to be given to each criterion. The data are examined and the initial set of weighting factors are applied to develop estimates of the actual outcome of the data. The network's estimates are compared to the actual outcome and the weights are adjusted to make the estimates closer until the outcome predictions have been optimized. Neural network 17 uses information calculated from the credit report, such as the ratio of debt to liquidity. A neural network designer will also make a judgment on how few criteria are needed to make a sufficiently accurate prediction. There are commercially available computer programs, known to those skilled in the art of computer decision-making, that can be used

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to develop neural networks for the lending model by simply entering the criteria and initial weighting factors.

If the analysis of neural network 17 determines that the loan should be made, additional information is confirmed by communications processor 30 from data obtained from database 14 or credit bureau 16 or is obtained from the caller using communications processor 30, namely, the caller's deposit account number, the caller's facsimile number, the caller's acceptance of automatic withdrawal. Then, the terms and conditions of the loan must be established in writing and the borrower's signature obtained. Obtaining the signature of the borrower can be accomplished in several ways. If the borrower is being assisted in making the application for a loan by an insurance agent or financial planner with a personal computer and modem, or if the borrower is making the loan application from a kiosk, as will be described below, the signature can be obtained using an inkless "electronic pen" that, when the borrower makes a signature while holding the pen, recreates an image of the signature of the borrower on the signature line of the image of the documents displayed on the personal computer monitor. If the agent or planner has a printer 37, a copy of the executed documents can be printed out for the borrower and the electronic data file of the documents and signature transmitted back to controller/processor 10. In the case where a borrower has initiated the borrowing transaction from a kiosk, the signed documentation is printed out using a facsimile or a laser printer.

If the borrower is making the loan application by telephone, a copy of the documents can be sent to a nearby location by facsimile and delivered to the borrower by a delivery agent 22. Controller/processor 10

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can also print out the loan agreement using printer 20 and mail it by overnight mail service to borrower.

The executed agreement, if received in paper form from the borrower, is scanned into controller by scanner 24 for examination of the signature block. If the agreement has been properly executed, the controller will issue an electronic instruction to a source of funds such as lending institution 26 to transfer electronically the loan amount to the borrower's bank account at deposit institution 28. Before the deposit is made, however, there are several checks made to prevent fraud, including verification of signature as well as comparison of information obtained from the borrower with that available from a credit report, such as date of birth and the number of years with a present employer. Part of the terms of the lending agreement include permission from the borrower for the lender to make an automatic, periodic withdrawal from the borrower's bank account for repaying the loan. The automatic direct deposit by electronic fund transfer to and the automatic withdrawal of payment from the borrower's deposit account are especially important features of the present invention because they eliminate portions of the process from human control and delays. Also, if the borrower has an immediate need for the loan, direct deposit will make these funds available as quickly as possible, avoiding delays resulting from mailing, lost checks, the time taken for a check to clear, and the need to go to the deposit institution to make the deposit. Any documentation requiring the borrower's signature, including consumer lending disclosure information, will be handled as discussed previously.

No human needs to intercede in most cases. Communication processor 30 communicates with the borrower and controller 10 extracts

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information from data base 14 and credit bureau 16; neural network 17 makes the decision to lend and controller 10 arranges for the lending agreement to be signed. Controller 10 effects the electronic fund transfer and arranges for automatic withdrawal of monthly payments. If the caller requires help while communicating with communications processor 30, pressing # or 0 will result in automated messages or an attendant, respectively, to assist the caller. Pressing * will repeat the previous sequence for the caller. If the caller seems confused, communications processor 30 will interrupt the processes and provide attendant assistance or a telephone number for attendant assistance.

In an alternate embodiment, borrowers can apply for a loan using a personal computer 34 and a modem 36 by contacting controller 10 via telephone 12 through a communications link. Controller 10 will interact using the monitor of computer 34 to prompt the borrower who can type in the information needed and indicate responses to controller 10 for the latter to obtain the credit report and process the loan. The document can be received via modem 36 into computer 34, printed using printer 37. The documentation can be returned to controller 10 by facsimile 18 when the borrower is so equipped.

As an example of the prompting that can be done, communications processor 30 can ask: "Are you currently employed? Press 1, if yes; 2, if no.", "How much is your monthly income?", or "How much do you spend per month?" This information, provided by way of example, would be available from a credit report but can be confirmed by prompting a response. Alternatively, if the information is asked and the responses, based on a partial analysis, indicate that the loan cannot be

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made, the borrower can be so informed and the time, need and cost of obtaining a credit report can be avoided.

The answers to the prompts can be input by the borrower by pressing buttons on a telephone, keying entries in a personal computer by an insurance agent or financial planner or by the borrower's own personal computer or using the special keypad in a kiosk.

In a related alternative embodiment, an agent of the lender can assist the borrower in applying and can provide the electronic communications equipment. For example, insurance agents and financial planners can assist borrowers in processing loans. Most borrowers are located near an insurance agent's office and such agents frequently visit private homes as a part of their insurance work.

Not every loan decision will be clear. In the event the analysis by neural network 17 is inconclusive, the borrower will be called back by communications processor 30 and asked for an additional business day to qualify the loan application and, if the request if granted, the time for the return call will be arranged.

If the loan can be granted, communications processor 30 (or controller 10 if the borrower is using a personal computer) will confirm the amount that can be loaned, the monthly payment and the term of the loan. The disclosures required under applicable consumer lending laws and other documentation can be signed in ink or, in a kiosk, using an electronic pen and then returned by facsimile, by electronic data file transmission, or by overnight mail.

The controller/processor 10 via the communication processor 30 will review with the borrower the information relevant to the loan, such as the account number to which the direct deposit will be made and the

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name of the deposit institution, the account number and name of the automatic withdrawal institution, the date of the month and the first month the automatic withdrawal will begin, the address and payee if the check is not intended for deposit into an account, late charges that could apply, the finance charge, the annual percentage rate, the total cost of all the payments, and the total amount financed. This information needed from the borrower regarding his or her accounts can be obtained by communications processor 30 as neural network is making the determination to make the loan, or the borrower can indicate a telephone number where he or she can be reached for a call back after the loan is approved so any additional information can be obtained then.

If the loan is to be secured by collateral, the collateral needs to be identified and its value determined. If the item being purchased can serve as collateral, that fact can be confirmed via communications processor 30 as well as the identity of the goods and their whereabouts and location of title or a bill of sale.

The preferred embodiment for enabling a borrower to make a loan application is in the form of a kiosk. Figs. 2 and 3 depict a kiosk 40 for use by an applicant in initiating a loan. A kiosk is basically a housing that can contain all of the equipment for a borrower to use in contacting and communicating with a remote, centrally located processor 10, or, alternatively, it contains processor 10. Kiosk 40 has a computer 42 with a monitor 44, a keyboard 46, a magnetic bank card reader 48 that enables a bank card to be read to identify an applicant as well as the applicant's bank and corresponding checking account, an internal facsimile with communications link (not shown in Figs. 2 and 3) and, in a preferred embodiment, means for transferring a signature to a document such as

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electronic signature block 50 and electronic pen 52. Block 50 is a surface that converts the motion of electronic pen 52 as borrower holds it and goes through the motions of making a signature to an electronic image of a signature and transfers it electronically to computer 42. The image of the signature can also be used by the lending institution to verify the borrower's signature before the direct deposit is made.

An applicant will enter kiosk 40 and indicate using keyboard 46 his interest in a loan. He will be prompted by computer 42 via monitor 44 to run a bank card through bank card reader 48 to identify himself or alternatively may simply enter his name, address and social security number. Computer 42 will forward information to controller 10 via a communications link which will access one or more databases, such as credit bureau 16 to obtain a credit report. As before, the information obtained from the applicant and from the credit report will be scored. Preferably using neural network 17, to determine whether or not to approve the loan. If approved, the applicant will be so informed and the loan information provided. The signature of the applicant can be obtained using block 50 and pen 52, and a signed copy of the agreement printed out for the applicant by a facsimile 54. Meanwhile, the time of the effectiveness of the electronic transfer of funds will have been arranged and communicated to applicant as well as obtaining of his permission to have his deposit account automatically debited to repay the loan.

It will be apparent to those skilled in the art that many modifications and substitutions may be made to the foregoing preferred embodiment without departing from the spirit and scope of the present invention which is defined by the following claims.

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WHAT IS CLAIMED IS:

1. A method for processing a monetary loan application from an applicant using a programmed computer and a communications link, said method comprising the steps of:

exchanging information regarding said loan application between said applicant on one end of said communications link and said computer on an opposing end of said communications link;

determining by analysis by said computer whether to approve said application based in part on said information;

confirming approval of said loan to said applicant via said communications link;

contacting a source of funds by said computer via said communications link; and

initiating by said computer via said communications link an electronic transfer of said loan to an account designated by said applicant from said source of funds.

2. The method as recited in claim 1, further comprising the step of arranging by said computer over said communications link for automatic withdrawal of payments from said account to said source of funds to repay said loan.

3. The method as recited in claim 1, further comprising the step of obtaining a credit report regarding said applicant from a credit bureau based on said information, said credit report requested by said computer over said communications link and received by electronic data transfer to

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said computer from said credit bureau, said determining step based on analysis by said computer of said credit report.

4. The method as recited in claim 1, further comprising the step of transmitting to said applicant from said computer over said communications link an image of a loan agreement.

5. The method as recited in claim 1, wherein said step of determining is performed by said computer using a neural network for said analysis.

6. The method as recited in claim 1, further comprising the step of converting information provided orally by said applicant at said first end of said communications link to electronic signals using means for recognizing human voice, said recognizing means in electronic communication with said computer.

7. Apparatus for processing an application by an applicant for a monetary loan, said apparatus for use with a source of funds, said apparatus comprising:

a programmed computer;

a communications link between said source of funds and said computer;

means for transmitting and receiving an electronic data file of a loan agreement, said transmitting means connected to said computer; and

means for programming said computer to obtain said application from said applicant, process said application and approve said loan.

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8. The apparatus as recited in claim 7, wherein said transmitting and receiving means includes means for electronically transferring a signature of said applicant to said agreement.

9. The apparatus as recited in claim 7, wherein said programming means programs said computer to effect, via said communications link, an electronic transfer of funds from said source of funds to a deposit account identified by said applicant.

10. The apparatus as recited in claim 7, wherein said communications link is in communication with a credit bureau and said programming means includes means for accessing said credit bureau via said communications link to obtain a credit report about said applicant.

11. The apparatus as recited in claim 7, wherein said communications link is in communication with a database and said programming means includes:

means for obtaining from said database via said communications link information about said applicant; and

means for determining whether said application should be granted based on said information.

12. The apparatus as recited in claim 7, wherein said communication link is in communication with a database and said programming means includes:

means for obtaining, via said communications link, information about said applicant; and

a neural network to analyze said information to determine whether said application should be approved.

13. The apparatus as recited in claim 7, further comprising a scanner in electrical communication with said computer for obtaining an image of a document.

14. The apparatus as recited in claim 7, wherein said communications link has a first end connected to said computer and an opposing second end, and said apparatus further comprises a kiosk containing said computer, said transmitting and receiving means and said programming means.

15. The apparatus as recited in claim 7, further comprising means for reading a bank card to identify said applicant, said reading means in communication with said computer.

16. Apparatus for processing an application by an applicant for a monetary loan, said apparatus for use with a source of funds, said apparatus comprising:

a kiosk;

a programmed computer in said kiosk;

means in said kiosk for reading a bank card to identify said applicant;

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a communications link having a first end and an opposing second end, said first end connected to said computer, said second end in communication with said source of funds;

means in said kiosk for printing a loan agreement, said printing means connected to said computer; and

means for programming said computer to obtain said application, process said application and approve said loan.

17. The apparatus as recited in claim 16, wherein said printing means includes means for electronically transferring a signature to said agreement.

18. The apparatus as recited in claim 16, wherein said programming means programs said computer to effect, via said communications link, an electronic transfer of funds from said source of funds to a deposit account identified by said applicant.

19. The apparatus as recited in claim 16, wherein said communications link is in communication with a credit bureau and said programming means includes means for accessing said credit bureau via said communications link for information about said applicant.

20. The apparatus as recited in claim 16, wherein said communications link is in communication with a database and said programming means includes:

means for obtaining from said database via said communications link information about said applicant; and

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means for determining whether said application should be granted based on said information.

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Fig 1

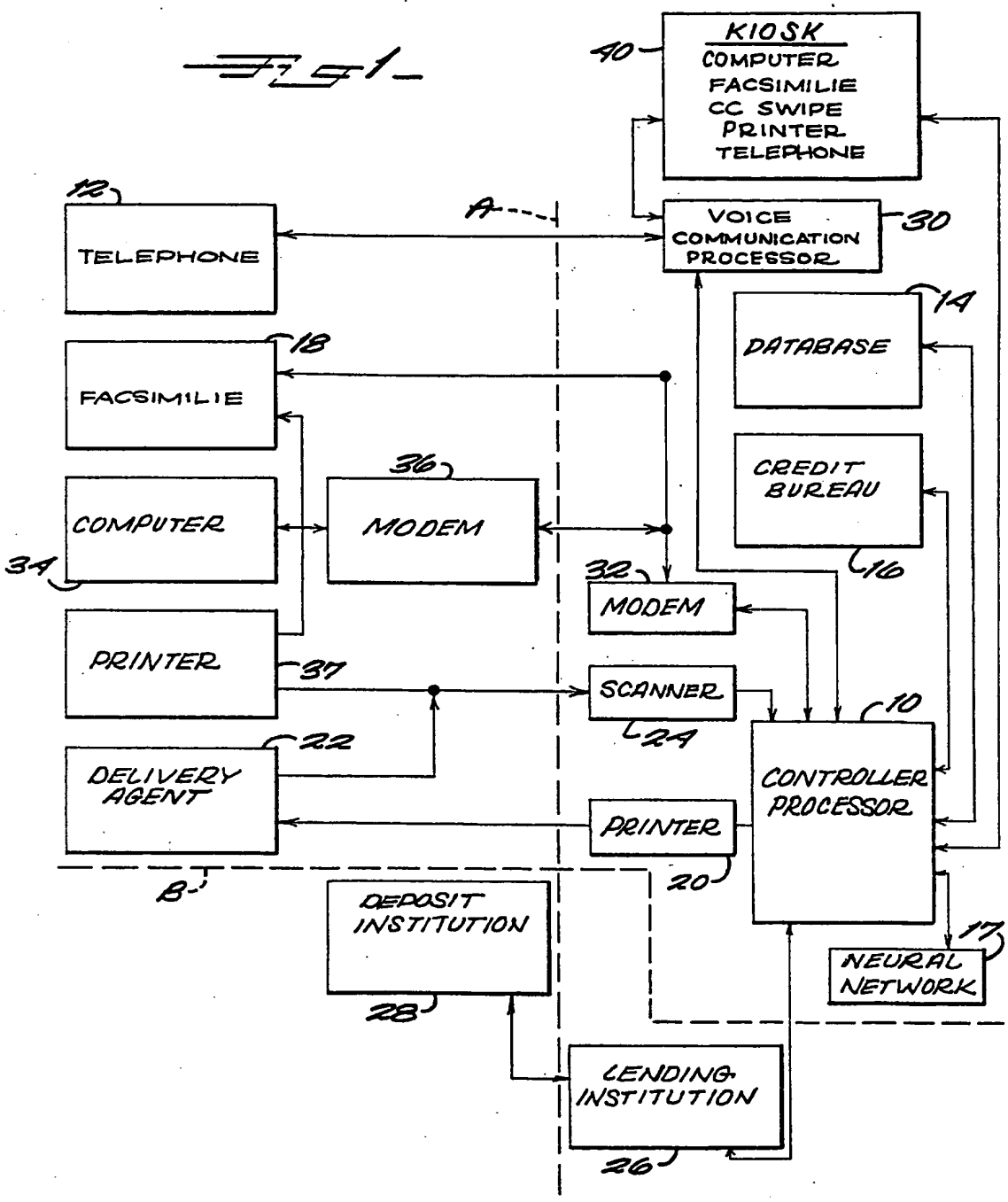

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Fig 2

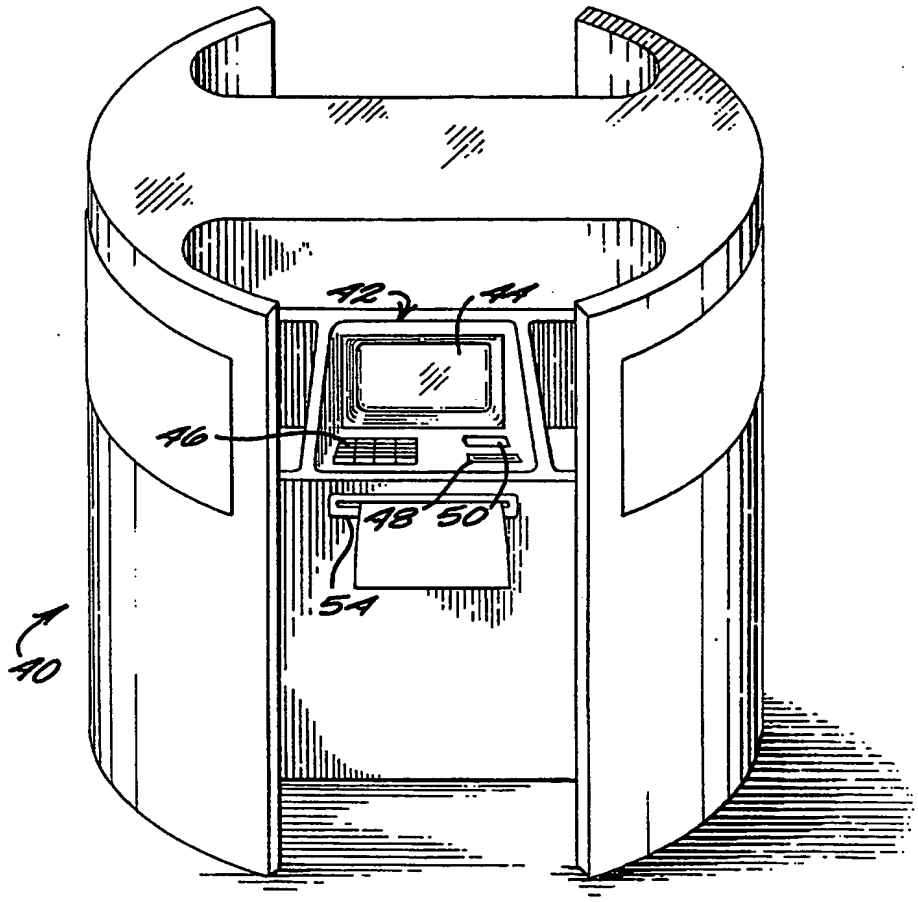
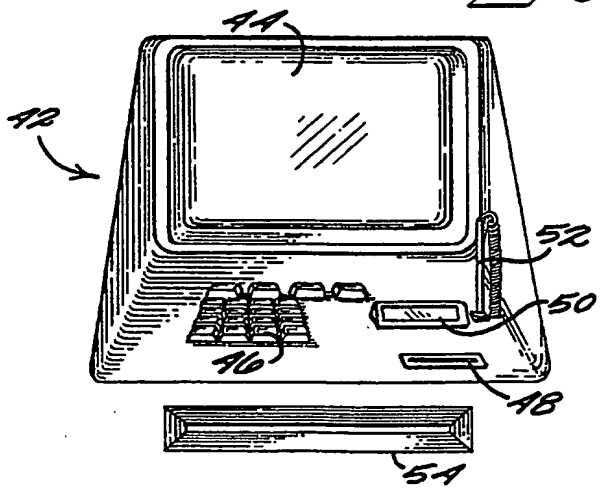


Fig 3



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US94/09716

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G06F 17/50, 17/60
US CL : 364/408
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 364/408

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DIALOG, Datastar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 5,239,462 (Jones et al) 24 August 1993 column 2, line 47- column 4, line 33; column 5, line 47- column 7, line 45;	1-20
Y	US, A, 4,649,832 (Hain et al) 17 March 1987 column 1, lines 5-49; column 2, lines 36-54.	14, 16-20
Y, P	US, A, 5,241,620 (Ruggerio) 31 August 1993 See Figure 8; column 1, lines 5-27; column 9, line 60-column 10, line 64	5

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be part of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 02 NOVEMBER 1994	Date of mailing of the international search report 12 JAN 1995
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